motion supervenes and it becomes very painful: It is sometimes attended with ecchymosis & I have also been able to feel a depression, exactly in the spot where the patient felt the Snap.

Whenever a case of this kind happens it should be treated in the same manner with ruptures of the Tendo Achilles.

If the tendo achillis be ruptured or divided suddenly, the patient feels a snap like the breaking of a tense chord, & is unable to extend the leg, or walk without a great deal of difficulty.

The celebrated Dr Monro, who has the misfortune to rupture his tendo achillis, observed that at the time, it appeared to him as if something had given way with a sudden snap, & as if his heel had sunk into the floor three or four inches, so great was the shock it gave him. The apparatus made use of by the Dr in this case, & which has been made use of by many others since, was the following. A strong piece of coarse linnen, was laced round the upper part of the leg, with a buckle fastened to it behind: the foot was then extended upon the leg, as much as possible, and a slipper put upon the foot, with a strap at the hind part long enough for to pass thro' the buckle at the upper part of the leg, which was drawn very tight in order to ex-

tend

tend the foot as much as possible so that the edges of the tendo might be brought in contact with each other. With a great deal of care the Doc. succeeded in curing this rupture very successfully. But I have used the Doc.'s remedy & have generally found it very ineffectual. In the first place it does not keep the the limb entirely steady: it allowes it to have lateral motion; & when this is the case, the edges of the tendon becomes displaced. In the next place, in order to keep the foot perfectly extended it is necessary to draw the strap so tight as to cause the laced bandage to press so much as to obstruct the passage of the blood & lymph. & cause the limb to become oedematous.

The method which I have used of late, & which I find the most effectual is, first, to bend the limb a little on the knee in order to relax the muscles; then a splint or box, made in the shape of the leg, & exactly fitted to it, & the foot when extended, & reaching more than half round the leg. Is now to be applied, which should be retained there by means of a bandage applied round the heel & over the splint, & so round the foot until it reaches the

Surgery.

Of Accidents.

The most simple accident that occurs is a concussion of a part without any external opening.

The next is that in which a small blood-vessel is ruptured. In some cases in which several vessels are ruptured by contusion, the cellular substance is effused with blood. This effusion is called by Surgeons an Ecchymoses. The best and most effectual method of removing the effusion (when recent) is by the application of cold water. If after several days the effusion should continue, a puncture should be made with a lancet, & the effused blood let out. In some cases absorption takes place, and it is removed; but in others again, absorption will not take place, and the effused blood instead of coagulating remains fluid; in this last case it is, that the lancet should be used. If the effused blood becomes coagulated a hard tumour is formed: the best means of removing it is by the use of a compress and bandage.

Of Wounds.

Wounds differ from accidents by having an external opening. The first thing to be done in superficial wounds, is the promotion of union by the first intention. When this can be accomplished it is unattended with pain.

When union by the the first intention, or — what is called resolution, does not take place, inflammation is excited: of which I am in the next place to speak of.

Of Inflammation.

The simple act of inflammation cannot be considered as a disease: but it is sometimes connected with diseases; as in Scrophula, Lues-venera, &c.

I shall in the first place begin with observing the nature and effects of inflammation in its different stages. In order to distinguish inflammation a person should be acquainted with its phenomena.

When inflammation is about to commence in a part, there is an increased sensibility in the part, attended with heat, redness, swelling, & pain from the slightest touch. Its remote causes are either, chemical, mechanical, or from Fevers.

The Chemical causes are, heat. The mechanical are bruises, burns, caustics, issues, & blisters

If it is necessary to make an incision in order to let out any extraneous bodies that may be lodged within, it should be done immediately after the accident, or not till after suppuration. The remedies necessary to be used are emollient plaisters, low diet, & in some cases a blister over the part.

If an abcess should form at some distance from the puncture, it should be dilated in the direction of the puncture, by means of a scalpell & director, in order to give the matter a free discharge.

Some wounds especially those on the Scalp should be dilated early. In warm weather wounds should be prevented from healing too rapidly; this may be done by keeping them either with stimulating ointments, by dilating with the knife, or by caustic, & allowing the patient a generous diet. If symptoms of Tetanus or Convulsions appear the wound should be freely dilated.

Of Wounds in different situations in the Body.

I. Of Wounds of the Eyelids.

In incised wounds of the Eyelids where there is no loss of substance, the divided surfaces may in general be kept in contact by means of adhasive plaister; but if that should fail sutures must be used. In using the suture the stitch should be made only thro' the skin, & cellular substance;

for

for if it were to go thro' to the Eye-ball, the ligature would irritate & inflame the Eye very much. If the ball of the Eye be very much inflamed the inflammation must be removed by means of the antiphlogistic regimen, & the patient confined to a darkroom.

If the ball of the Eye be wounded by glass, pieces of iron, sand &c. or if any extraneous matter be lodged in it, if it can be seen it should be taken out: then if inflammation succeeds, bloodletting purgeing blisters, low diet, cupping & scarifying are to be used. The Eye should be washed with milk and water, or the pith of Sassafras dilutes in water; the eyelids should be closed specially if the ball of the Eye has been opened; in order to prevent the humours from escaping. & the patient should be kept in a darkroom.

In some instances the ball of the Eye is not only injured, but also the internal parts, by means of thorns, needles &c. When this is the case vision is entirely destroy'd. The same remedies are to be used as before mentioned.

A Lady having punctured the cornea of one of her Eyes with a darning needle, sent for me to visit her: I directed her to be bled, have a blister applied & live upon a very low diet, which she did for some time, without having any effect; she then went thro' a course of Mercury which cured her effectually. I have found mercury given so as to produce ptyalism, a very effectual remedy in many

poultice applied to the part.

In many diseases, abcesses open of themselves but in certain cases it becomes necessary to make an artificial opening. If an abcess is formed in a part, & fluctuation is perceived, if it does not seem likely to break very soon, an opening should be made.

Abcesses seated either in the Thorax, Abdomen, Cranium, or in large joints, should be opened as soon a fluctuation can be felt.

In some situations abcesses are attended with a great deal of pain, as in paronychia, in this case the pain is relieved by making an incision, and by Opium.

I knew a Lady who was troubled with a violent pain in her head, which arose from a collection of pus in the calf of the leg: a variety of means were used for it without effect; I then made a free incision into the abcess, & the pain immediately ceased.

I have known all the Symptoms of Nervous Fever, in two persons which arose from abcesses about the oblique Muscles. One of them died before the abcess was discovered. The other mentioned that he had an abcess. I made an incision into it, and he very soon got well.

Abcesses seated in the face should be opened early. Also those that are situated so as to impede respiration, should be opened as soon as discovered.

There are two ways of opening Abcesses, viz. by incision and by Caustic. Incision is the most expeditious

expiditions. but some persons are so fearful of Instruments. that we are obliged to have recourse to the other. viz.

Caustic, the manner of using it is to take a piece of the caustic Alkali. or Lapis Infernalis. and rub it upon the part, where we wish to make the opening. for two or three minutes. this causes a compleat death of the part. & when it sloughs off. an opening is made into the Abscess.

Sometimes the process of Suppuration is stopped. & the pus is absorbed. without suppurating. Blisters have a very good effect in absorbing pus. I have very often seen pus absorbed in bubos by the application of blisters. Also in the Eyes by bloodletting, purging.

Pus, when taken from an healthy ulcer, is nearly of the consistence of Cream. & of a light straw colour. Its specific gravity is greater than that of water. Pure pus is not in any way corrosive. Mr Hunter says that the inflamed vessels partake of the nature of Glands & secrete pus.

Of Ulcerated Inflammation.

In ulcerated inflammation the whole substance is lost. and an ulcer is produced. In some instances ulceration proceeds suppuration. in those cases suppuration does not take place till after ulceration. The process of ulceration is always attended with inflammation: & it is most commonly attended with pain as in Scrophula. Simple pressure long continued a-

powerful effect in removing inflammation.
5. Rest is a very material thing: it is impossible for inflammation to cease in a part that is liable to much motion.

Of the Local Remedies these are

1. Local Bloodletting: (When accompanied with fever general bloodletting should be used before — local.) when it is practicable, the opening of a vein or artery in or near an inflamed part, has been found very useful, & in some instances a certain cure.
2. Cold Applications, when there is a great heat in the part. Cold improperly applied, that is when there is but little preternatural heat in the part occasions pain. The great object is to keep the part as easy as possible.
3. Preparations of Lead, dilute Spirits of wine, Laudanum, vinegar & Sal. Ammoniac. & Spt. — Mindereri, have been found very useful.
4. Fomentations, & poultices of bread & milk, of linseed, & rye meal, have been used with success.
5. Blisters over the inflamed part or in its vicinity, have an extraordinary effect, in removing inflammation. They are generally most successful in punctured wounds. In some cases they are the only effectual remedy.

Of Suppurative Inflammation.

When inflammation puts on the appearance of suppuration, if it is so violent in degree as not to admit of curing by resolution, we must then endeavour to promote suppuration.

When

When suppuration is about to take place in a part the pain increases, the part becomes more red and swelled, (and is frequently attended with rigors which are succeeded by fevers) and an abcess is formed. An abcess may be defined a circumscribed circle containing pus.

Sometimes hectic fever is brought on: the symptoms of which are, debility of the whole system, small & weak pulse, loss of appetite, (sometimes the appetite is increased,) costiveness at first, but at the conclusion a diarrhoea comes on; the urine is high coloured, and deposits a copious sediment. It sometimes comes on in the form of an Intermittent.

Hectic fever generally attends suppuration of particular parts, such as vital parts, and sometimes other parts as in white swellings of the Joints. It is supposed by some Surgeons that the absorption of pus is frequently the cause of Hectic Fever. This I do not believe, because I have often seen very large Buboes, removed by absorption, without causing hectic fever.

Hectic has been relieved and sometimes cured by means of Issues near the diseased parts. This proves that, so far from stopping suppuration, in some instances we should increase it. In diseases of the Joints, if amputation is performed, the patient generally gets well.

When the pain of inflammation is very severe during suppuration, Opium should be given with Tartar Emetic, and a soft bread & milk

poultice

any inflammation, the other preceded by inflammation. The first arises from a violent contusion or laceration of the parts. The second from an obstruction in the circulation of the blood in the limb.

When a part becomes mortified, the best thing to be applied to it, is a soft bread & milk poultice moderately warm, & not heavy, which should be continued until the mortified parts separate. If inflammation runs high, it must be reduced by evacuating remedies. Moderate inflammation is salutary. If the System is depressed the Bark must be taken internally: and if attended with much pain opium should be given.

When a part is exposed to intense cold it becomes painful, of a red colour, which if the cold be continued changes to a dark purple, & the part becomes tumefied. When completely frozen the first application should be snow applied, & afterwards immersed in spring water. Mortification sometimes takes place, without any evident cause.

The second kind of Mortification is that which is preceded by inflammation. It arises.

1. From the inflammatory action being very violent.
2. From a certain peculiarity in the inflammation.

When injected into the cellular substance, or urine effused into it produces violent inflammation

mation

mation and mortification.

There is a species of inflammation which takes place frequently in the toes of old people without any evident cause: it is not however always confined to old people. The progress of this disease is very slow in some people in others very rapid.

Once saw this kind of Inflammation arise from a Gentleman scratching one side of his foot slightly. He applied some drawing Salve to it which irritated it so much as to cause violent inflammation, & mortification shortly took place and he very soon died.

Mr Pott advises the use of Opium in this disease, he says he succeeded much better without it than with the Peruvian bark.

Scarifications should never be made upon the mortified parts, the dead parts should be let to separate of themselves.

Amputation should never be performed until the dead parts have separated and the patient recovered a little from its effects.

Upon the earnest request of a Patient of mine in whom mortification having taken place upon the foot and was proceeding up the leg, I was induced to amputate it, tho' contrary to my own opinion & that of two other Physicians who attended with me: yet the patient himself urged so hard that I did it. After amputation it went on very well for three or four days, but in five or six days after, mortification seized the stump, & he died

each other; this is in general done either by sutures, compress & bandage or adhesive plaister. In general the adhesive plaister is sufficient, which should be applied in the form of strips about two inches apart, in order to let any extraneous matter which may be lodged in the wound pass out: the compress & bandage should then be applied, & union will then take place in 48 hours, or at farthest in 72 hours. The adhesive plaister is preferred, to the suture for three reasons.

1. Because the patient suffers a great deal of pain in passing the needle thro' the parts.
2. Because the needle makes a punctured wound.
3. Because the ligatures keep up a constant irritation, and when it passes thro' any part of the wound it causes suppuration

Incised wounds made with glass, should not be approximated but should be treated as contused wounds by promoting suppuration.

In wounds of the lobes of the ear, parts of the nose, lips, abdomen, scrotum, & scalp, the suture should be used. Different kinds have been used; but the only kind now in use are, the interrupted and twisted.

Inflammation is now the only circumstance to be attended to: if the pulse be full, & attended with fever bloodletting, purges, and a low diet should be used.

Of

Of Contused Wounds.

A contused wound is that which is made by an obtuse instrument; which besides makeing an external opening, the surface for a considerable distance round is very much injured. The hemorrhage in these cases is generally very small. If the patient suffers much from pain, anodynes joined with an emetic, or Dover's Powder, should be given him. A poultice of linseed, or bread & milk applied to the part; which should be continued untill the dead parts slough off, and granulations begin to rise. If the inflammation runs very high the antiphlogistic regimen must be used.

But if it puts on a Gangrenous appearance the peruvian bark, bitters, porter &c. and nourishing diet should be given, in order to support the patients strength. In some cases a blister applied over the part has been found very useful.

These remedies may in general be used with much more safety in winter than in Summer.

Of Punctured Wounds.

Those are wounds made by a pointed instrument: in which the external opening is small, but of considerable depth.

Inflammation is much greater in those wounds than in incised. They should never be examined with probes.

If it is

2. By the lateral pressure which is produced by the effusion of blood in the cellular substance.
3. By the death of the vessels. coagulation takes place much sooner.

When called to an incised wound the first thing to be done by the surgeon is to put a stop to the hemorrhage. A temporary stop may be put to it by pressing upon it with the finger; if the divided vessel be small a compress & bandage will perhaps be sufficient; but if a large artery be divided the Tourniquet should be applied either above the Elbow on the arm, or above the Knee on the Thigh: the wound is next to be cleared of blood, by means of a sponge dipped in warm water: & then the artery should be tied above & below, by means of the tenaculum, if practicable: In some cases however the divided vessels cannot be seen; in that case the needle & thread must be used. In some cases the artery cannot be got at without dilating the wound: when this is the case it should be dilated without any hesitation, & the artery taken up. If an artery on the trunk be divided, pressure should be made with the finger until the artery can be taken up with the tenaculum. The artery may be pressed as it passes out over the first rib: & the inguinal artery as it passes out of the groin.

It rarely happens that the bleeding vessels cannot be stopped by some of the above ways, but sometimes

times they cannot.

When an artery far back in the fauces is divided a ligature cannot be applied; neither can pressure be used: in this case in order to prevent hemorrhage styptics. astringents, &c. should be used; & if these should fail. the actual cautery must be used.

I have known cases in which hemorrhage from large arteries has stopped spontaneously.

A boy aged 14 years being at school one day, ran a penknife into his leg immediately under the knee joint & punctured the popliteal artery. a large tumour formed immediately, he was taken home & immediately put to bed. & the hemorrhage subsided. the tumour went away; the next morning he got up as well as usual, after walking about a while, the hemorrhage returned; he was put to bed again, it stopped; the next morning he got up again, after stirring about for sometime the hemorrhage again returned. I continued doing so for several days; when; when I was sent for in company with Dr Whister, we ordered him to be put to bed, & kept there, & to have his foot elevated above the rest of the body: he was also bled, kept upon low diet, & opiates were given: in about a week or ten days he got well. Probes should never be used in such cases: in general a superficial dressing, & sometimes moderate pressure is all that is necessary.

The next object after stopping the hemorrhage is the keeping the divided surfaces in contact with each other:

Of Wounds of the Nerves and Tendons.

When a nerve is completely divided a very severe pain, & numbness of the limb is felt immediately and continues for a long time: But when partially divided the symptoms are the same but of much shorter duration. This most frequently happens in bloodletting. I knew a person who lost the use of his Thumb for a considerable time, by the puncture of a nerve in bloodletting: the numbness & pain generally ceases in a few days. If the inflammation be very violent round the wound, it occasions great pain, spasms, & sometimes tetanus.

The ancient method of treating such wounds was to lay the part open down to the bone, & to use the antiphlogistic regimen: the consequences arising from this mode of treatment, was that the patient's arm remained stiff forever; & in some instances it even occasioned death.

I never have seen or heard of a case, in which I thought it was necessary to divide the wounded nerve; neither do I believe it is ever necessary.

The best, most simple, & most effectual remedy is a blister applied immediately over the part.

This I have used in many cases, & in all with complete success.

The same effects are, sometimes observed to arise from wounds of the Tendons. Sometimes the part beneath the tendon swells very much, & the pain is very violent but this seldom happens

pens from bloodletting. I have seen it happen from wounds of the Thigh; also from wounds of the Scalp. I have generally found in those cases, blisters if applied early, a very effectual remedy: If it should not prove successful, an incision must be made thro' the fascia, & suppuration will commence at the bottom of the wound.

Tendons are sometimes completely divided. When this happens, they do not in common require different treatment from the incised wounds.

It was the practice among the Ancients, in order to keep the edges of the divided tendon in contact, to keep sutures thro' them. This was a very ineffectual method, & besides it caused a great deal of unnecessary inflammation. In general the limb should be placed in that position in which the divided edges are brought into contact, & it should be kept so by means of splints, & the edges of the wound, by a piece of adhesive plaister, may be kept in contact until they become completely united.

A rupture of the fibres of the Gastrocnemius Muscle sometimes happens; the sensation made at this time, appears to the person like a violent blow upon the leg, & a snap is heard; like the breaking of a strong cord. At first it is attended with but little pain, but in three or four days, if care has not been taken of it, inflammation

contact with each other, & to keep it so by means of a splint applied to it. The lips of the wound may in general be kept together by means of the adhesive plaister. But if it should be necessary at any time to use sutures, the interrupted, is the only one that should be used. In making the stiches, the needle should pass thro' the integuments only, & by no means pierce the capsular ligament, because it would excite a great deal of inflammation, & prove very injurious. When granulations arise from the wound the stiches are to be removed, & they are to be kept in contact by the adhesive plaister, until the wound heals. When the ends of the bones are injured, the same remedies are to be used, viz. to keep the edges of the wound in contact by the adhasive plaister, & the limb extended on a splint. Where the wound pierces the capsular ligament, a splint should be added along with the other dresings; this is a very important circumstance, & should not be forgotten. When even the Elbow Joint is injured, if anchylosis is likely to take place, it should be kept in a flexed position.

In extensive lacerated wounds of the joints, especially if the ends of the bones be much injured, it has become a question among Surgeons whether amputation ought not to be performed. It is always my practice in such cases to state to the patient the danger arising from an attempt to save the limb, & let him do which he thinks best.

It

It must be remembered that such wounds are much more dangerous in summer than in winter. & in those who are intemperate.

If under these circumstances the patient I should think proper that an attempt should be made to save the limb, or if the Surgeon should think it proper, it should be done immediately by endeavouring to promote union by the first intention.

In contused wounds of the cavities of the joints, the edges should be brought as near together as possible, by the position of the limb & kept so by a compress & bandage: A soft poultice should be applied over the contused part: & bloodletting purgeing, blisters, & a low diet should be used. Sutures are very injurious. Small contused wounds may in general be cured by forming anchylosis. In order that anchylosis or bony union may take place the cartilages, tipping the ends of the bones must be removed: this may be done either by leaving it to the process of absorption, which in some instances is very effectual, or by scraping them with a scalpell, in order that the ends of the bones may come in contact with each other. & bony union take place; when this is the case the joint will always remain stiff. In compound luxations of the joint amputation should be performed.

Of Wounds

in different parts. If it effects the skin only, a considerable itching is produced. If the tunica of the tendons become inflamed it is attended with violent pain & sometimes death.

Violent inflammation wherever excited, is accompanied with symtomatic fever, a hard, frequent, and full pulse, and with sizey blood.

I was desired to visit a man sometime ago, who was supposed to be dying, from a bar of iron falling upon the external angle of the Tibia, which excited a violent inflammation; he was very soon relieved by giving him a dose of Laudanum, and applying a poultice of bread & milk with Laudanum in it, to the inflamed part and soon after got well.

When inflammation arises in consequence of a local disease ~~&c &c &c &c~~, an attempt should not be made to heat it by the first intention; except it be in those places where from its situation, injury may be done to some vital parts: in that case the antiphlogistic regimen should be strictly used.

Adhæsive inflammation after having extravasated coagulable lymph terminates spontaneously, it is then said to terminate by resolution.

The next mode in which it terminates is by a large secretion of serum. This is proved by applying a blister over an inflamed part; a large quantity of serum is secreted by the action of the blister upon it, and the inflammation soon ceases.

Hemorrage taking place in the inflamed vessels sometimes stops inflammation. I once attended a person with a violent inflammation in one of his

Eyes

Eyes; and after having used a great many remedies such as bleeding, blistering, purging, &c. without effect, it was cured by a spontaneous hemorrage taking place from the bursting of an Artery; after having bled, near a quart, it stopt, & the inflammation soon subsided.

The remedies necessary to be made use of in the cure of Abasive Inflammation are,

I. Such as act generally upon the Constitution: — these are bloodletting, mercury, purgeing, low diet, antimonials, dilluents, and rest.

II. Such as act locally, or upon the part itself: these are, local bloodletting, (if practible) scarifications, leeches and blisters.

1. Bloodletting this is one of the most powerful remedies in reducing inflammation. The quantity of blood to be drawn, should be regulated, according to the violence of the inflammation. It acts in two ways, first. By emptying the bloodvessels, & diminishing their action. & second. By emptying the bloodvessels is causes them to contract.

2. Purges, they are very useful in violent inflammation. They act either by reducing the fullness of the bloodvessels; or by creating nausea, produce sweat.

3. Mercury is a very powerful remedy in reducing inflammation. I was desired to visit a Lady some time ago, who had punctured the cornea of her Eye with a large darning needle. I treated it at first with the usual evacuating remedies; viz. bleeding, blistering, purgeing, and low diet, but without any effect. I then made use of Mercury, and as soon as the mouth became sore, the inflammation ceased, & the Eye got well.

4. Low diet, Antimonials & Dilluents, all have a powerful

-ed upon a part, causes an ulcer.

Besides the common phlegmonous inflammation, there are other species, viz. 1. Erysipelatous, it is seated in the cutis vera. It is generally preceded by a shivering & hot fever. the inflammation is of a dull and red colour, vanishing upon pressure, spreading unequally, with a burning pain. & tumour scarcely perceptible, sometimes ending in desquamation or vesicles of the Skin. It often spreads extensively over the whole body.

It differs from the Adhesive inflammation because the inflamed vessels never secrete coagulated lymph. When serum is collected it occasions small vesications, which generally terminate in ten or twelve days. And if favourable the cuticle peels off in small pieces like bran. When it attacks the face, it comes on suddenly, sometimes it is preceded by a sickness at stomach and fever, with heat, tingling of the part, livid colour, itching & small pustules containing a transparent fluid, which when they burst, the fluid excoriate the surrounding parts.

The remote causes are nearly the same with those of the Adhesive Inflammation. It sometimes comes on spontaneously. The remedies for it are the evacuating and antiphlogistic remedies. They are very successful if used before

before suppuration commences. Wheat flour, rye meal & blisters have been found to be very beneficial. I one had a case of erysipelatous inflammation of the thigh & leg, which was removed by applying a blister first to the thigh and afterwards to the leg. Unctions and greasy applications are very hurtful

If suppuration takes place a sufficient opening should be made, or the pus will travel from one cell to another, & do a great deal of injury.

Another species of inflammation is the

2. Edematous. It appears to be apparently in the skin: it is probably however that it goes farther, tho' it is impossible to find out its extent. The pain is not acute but of a hot, burning kind. If the part is punctured it is sometimes apt to become inflamed.

In a man aged 36 years, whose legs & thighs were edematous, a puncture was made near the knees, inflammation took place & it was sometime before he got well. In anasarcous limbs it is sometimes brought on by distention; & sometimes it is excited by scarification.

There are two other kinds of inflammation viz. Carbuncle & Mortification, which I shall take notice of in another place.

Of Abcesses.

II. Mammary Abcesses: It rarely happens that we

as it sometimes does happen it should not, we may ascertain it by some of the faces passing out at the wound, & by the voiding of blood by stool. These symptoms are also attended with great debility, rigors, coma &c. & if not soon relieved will end in death. If the Omentum or Mesentery be wounded, & hæmorrhage comes on, the bleeding vessels must be taken up with a tenaculum and tied, and the ends of the ligature brought out at the wound, so that they can be removed when they fall off.

In some instances where the intestine cannot be seen, or bleeding vessels cannot be found, or where extraneous matter is lodged within, it may in that case be necessary to dilate the wound a little, in order to secure them: The external wound should then be stitched up; & the Patient have but little to eat or drink, in order to prevent distention; & if uneasy & restless opium should be given; if attended with inflammation, blood-letting & purges will be necessary.

When the right hypochondriac is wounded we may suppose in general, that the Liver is wounded: When this is the case the Patient will complain of a dull, heavy pain about the part, nausea, & if the right lobe be wounded he will complain of a pain in his right shoulder, & vice versa. Small wounds of the Liver sometimes heal favourably, but large wounds in general prove

prove fatal. If attended with considerable hemorrhage, peritoneal inflammation takes place; if it does the patient should be kept very still & quiet, glysters should be given, & barley water for his drink. If the inflammation of the peritoneum should be very violent, bloodletting, rest, low diet, & fomenting poultices should be applied to the wound.

Wounds of the Gall Bladder are in almost every instance fatal, owing to the bile escaping into the cavity of the Abdomen.

When the Kidneys are wounded, bloody urine is voided: & in general if the Ureters are wounded & the urine escapes into the cavity of the Abdomen, it is fatal.

Wounds in the fundus of the Bladder are generally fatal.

Of Wounds which penetrate into the Cavities of the Joints.

A wound made into the cavity of a joint, requires immediate attention in order to prevent inflammation & suppuration.

In some wounds of the joints, amputation is necessary in order to save the patients life. But in simple incised wounds the first thing necessary to be done is to place the limb in such a position as to bring the edges of the wound in contact—

lets into the cavity of the Thorax are generally dangerous; as they must suppurate, & slough out all the contused parts; it causes a great deal of Inflammation inside of the Chest, difficulty of breathing, &c. When this is the case we must have recourse to copious bloodletting, purging, & a very low diet. Lint or any such applications when applied to wounds which penetrate into the cavity of the Thorax, should be secured from falling into the Thorax.

In almost all authors, the necessity of drawing the air out of the chest, before the wound is dressed is mentioned: But I believe it is altogether unnecessary: No bad effects are to be apprehended from the air being left in the cavity of the Thorax.

Two Officers playing at cards one day, a dispute arose between them, upon which one of them stabbed the other: The wound penetrated into the cavity of the Thorax. In this case the external wound was so large as to admit air; as I was sent for immediately after the accident, I just applied a piece of adhesive plaister over the wound, & left the air remain in it; & by bleeding, purging, &c. he was cured, & no bad effects arose from the confinement of the air contained in the chest.

Of Wounds of the Abdomen.

When these are superficial & do not pass into the cavity of the Abdomen, they do not require treat-

ment

ment different from any other wounds. But if they be deep & penetrate into the cavity of the abdomen the edges of the wounds should be kept in contact by the interrupted suture. When the suture is to be used, a needle should be put at each end of the ligature, & the needle should be introduced from within outwards, at about half an inch distant from the edges of the wound; all the stitches should be made before tying any of them; after they are all made, they should be tyed upon the side of the wound; the patient should then be placed in a recumbent posture, live upon a low diet, & his bowels kept well open.

As soon as union has taken place, the ligatures should be removed, & the adhesive plaister used in their place, untile it gets well.

But if from any accident, some of the viscera are injured, they must be examined, & if necessary they must be stitched. As soon as the wounded intestine is discovered, four stitches will be sufficient for it, & the ends of the ligatures should be cut off close to the knot, so that when they fall off into the cavity of the intestine, they will pass out at the Anus by stool. It is generally the best & safest way to make the intestine fast to the edges of the wound.

If the Stomach be wounded, food will pass out at the wound, vomiting will ensue and the patient will feel a great deal of pain.

In almost every instance the injured omentum or intestine will protrude thro' the wound: but if

as it

The inflammation will vary according to the
different degrees of heat brought into contact, &
the situation of the part in which it is placed.
A burn on the head is worse than in any other
part. If the cutis only is burnt, it will
cause a seperation of the cuticle; but if the cu
tis & true skin are both burnt, a violent in
flammation will follow, & a watery serum will
collect under the skin, like a blister, and cause
a seperation of the cuticle. If the cellular sub
stance is effected the texture of the skin will
be entirely destroyd. Burns in Children &
old people, are often attended with great dan
ger. In persons of a dropsical habit, it often
ends in mortification. A boy took it in his head
one day to walk round a large chaldron of boil
ing water, at a soap boilers. his foot slipped & he
fell in, a person who heard the noise, ran & pulled
him out istantly, but having his clothes on, the
water soaking thro' them burnt him very much
before they could be got off of him; I was sent for
immediately. I found him without any pulse,
his extremities cold, very restless. & nearly insen
sible, he survived it, only about six hours.

In the treatment of Burns I shall divide
it into constitutional & local.

If the inflammatory symptoms run very
high, evacuating remedies should be used such

as

as bleeding, blistering, purging, low diet &c.

But if they exist only in a small degree and attended with fever the antiphlogistic remedies should be used such as laudanum, wine whey nourishing diet, bark, bitters &c. and these should be continued until inflammation & suppuration commences.

In the local treatment of burns a variety of remedies have been used.

Inflammation from a burn differs very much from a common inflammation.

It differs from it.

1. From the pain being a kind of burning pain, so much so as to induce the patient to believe that there is fire in it.
2. From its throwing out a fungus substance, & from its having no disposition to resolve.
3. From the cicatrix having a great tendency to contract. One of the best counteragents for this is Spt. Turpentine.
4. From burns being cured by remedies which we know would irritate common inflammation.

In those cases where the life of the part is destroy'd the patient does not feel much pain, until two or three days after, when inflammation takes place.

The remedies most effectual in the cure of this disease, are, vinegar, Spirits of turpentine, Spirits of volatile Salt diluted, Spirits of wine and bazilicon. A plaister of bazilicon, softned with Spirits of Turpentine, is a most excellent rem-

edy

comes on. If it is found necessary to open the abcess, it should not be done by a large incision, for the edges will not unite; but by means of a puncture, & that longitudinally of the thigh. Probes nor directors should be introduced into the orifice, because they would irritate it so much as to prevent union by the first intention; & also by rupturing the blood vessels inside of cavity, the blood would flow into it, & stagnate there, & become very injurious. After evacuating at intervals for several days, it then may be opened by making an incision; and treated as a common abscess, by dressing it with lint & adhasive plaister.

I have never effected a cure in this disease, because all the cases which I have had, were attended with a caries of the vertebra; but I have cured abscesses in the thigh by the above method.

A man aged twenty seven years, in good health, had a tumour upon the upper part of the thigh, which had been gradually increasing for nine months, there was no pain attending it, but a sense of heat in the part; when he laid down he said it disappeared, & when he stood up it appeared again; he was unable to assign any cause for it, it was increased by coughing, straining &c. On examining the tumour, I found by pressing upon the abdomen, the tumour increased & by pressing upon the tumour a fluctuating was perceptible; I immediately punctured the abcess with a lancet, and

a quart

a quart of pus of the consistence of cream ran from it: I thought it best not to let any more run from it at once. I therefore closed the orifice, & in about an hour afterwards opened it again. & another quart of pus was discharged, it was then dressed with lint & adhasive plaister. The next day he was quite easy untill five O'Clock, when he became very restless, had fever. & slight delirium, he was bled & blistered which relieved him; the third day he complained of great weariness, sighed frequently, but had no pain. ten ounces of blood were taken from him. & all his symptoms were better; the fourth day fever returned again. took six ounces of blood from him. & applied a blister over the inflamed part, on dressing the wound no union had taken place; Sixth day he was bled to six ounces; the incision became fistulous & discharged a considerable quantity of matter; issues were made on each side of the Spine. & kept running for several months without any effect; he was at last siezed with hectic fever. and died in about eight months from the time in which the puncture was made. On opening the body I found the lumber vertebræ carious. and the spine very much curved.

I proceed in the next place to treat

Of Burns and Scalds.

The effects of burns upon the constitution are various. If excessive heat be applied to a part it causes an inflammation called a burn or scald.

The inf-

we can ever see the formation of this abcess. owing to nurses. supposing that they can cure it without any other assistance.

It is seated either in the glandular part of the Breast, or in the cellular & adipose membrane. When it is seated in the former the secretion of milk is stopped. & it is attended with a shooting. or dull pain in the part; by this the hardness is discovered. & the skin is of a red colour. It is sometimes preceded by chills & fevers. Women are subject to this inflammation as long as they suckle. The pain attending it is sometimes so excruciating. that I have often heard women say it exceeded the pains of parturition.

The remote causes are 1. Drawing the clothes so tight as to press upon them to much. 2. Exposure to cold. 3. By allowing them to be distended to long with milk. Sometimes no cause can be assigned.

There is no disease so completely under our power. if called in at its commencement.

Mrs Justamond extols very highly a preparation of Sal. Ammoniac & vinegar. as a cure for this disease. I have tried his remedy but without success. The remedies which I have used and which I think are the most proper, are blood

letting,

letting, mercurial purgs. vegetable diet, warm oil applied to the part. and if the patient sits up the breast should be supported by a handkerchief tied round the neck and under the breast. Leeches should be applied to the part, & a bread & milk poultice with lead water. If after the proper evacuations, inflammation continues, a blister over the inflamed part, is generally found very successful in removing the inflammation. Suppuration will scarcely ever occur in this case, if it does the abcess must be opened & bread and milk applied to the part. When the abcess is deep seated between the pectoral muscle and the Gland, a small external opening should be made, and a small bougie should be introduced, which should be removed every two or three hours to evacuate its contents.

Inflammation in the integuments of the brain generally ends in Suppuration.

III. Paronychia or Whitlow is another local inflammation, which by not being taking in time, causes a great deal of pain, loss of a joint, sometimes of a finger, and even death has been produced. It is seated in the extremities of the fingers, either in the cutis, in the adipose membrane, under the skin, in the theca of the tendons, or under the periosteum which covers the bone. When seated in the skin, the pain & inflammation

blisters. Inflammation is sometimes a cure in certain diseases. It is excited sooner in some people than in others. I once bled a Lady in this City, and having made the orifice longer than I intended to. (it was about half an inch) no inflammation was excited for two or three days. I was therefore obliged to keep a compress upon it, to prevent hemorrhage, & in about three days inflammation was excited and it very soon healed.

If three different persons were each wounded in the same part, from the same cause, and the same treatment pursued in each, they will not heal alike: one will perhaps heal by the first intention: in another, inflammation will be excited in a high degree: and a third will perhaps end in Suppuration.

The same remote causes will produce phlegmonous inflammation in one person: & Erysipelatous in another.

Dr C. Smith calls that kind of inflammation which attacks the cellular substance phlegmonous; that which attacks the skin erysipelatous.

"According to Mr Hunter I shall divide inflammation into three kinds.

1. The Adhesive Inflammation; because in this the coagulated lymph, which is extravasated, becomes vascular & causes adhesion to

take

take place.
2. The Suppurative; because the inflamed vessels secrete pus.
3. The Ulcerated; because in this kind the external surface is lost, and an ulcer is formed.

Adhesions originate in the small vessels, from them it spreads into other parts: and — more blood flows tho' the inflamed part, than that which is healthy. The diameters of the inflamed vessels are considerably enlarged.

The coagulated lymph appears to undergo some change in passing thro' the inflamed vessels. An alteration in the colour of the part is one sign of ~~inflam~~tification.

The swelling in inflammation arises — from the enlarged diameters of the vessels, & from the coagulated lymph. It is generally attended with more or less pain. The heat of an inflamed part will never rise above the heat of the diaphragm, which is ascertained by placing the bulb of the Thermometer near the circulation.

A man who having been operated upon for a Hydrocele of the Scrotum the Physician — thrust the bulb of the Thermometer between the testis and tunica vaginalis. it arose to 92° after inflammation was excited, he introduced it again, it then arose to 98°. The heat of the body sometimes arises to 104° from the effects of disease.

The effects of inflammation varies

in

Of Incized Wounds.

An Incised wound is that which is made by a clean, sharp instrument; and is simple in its nature. Much more blood flows from an incised wound, than from a contused. I saw a boy once who had his arm ground off in a Grist Mill between the Elbow & the Shoulder. in this case the effusion of blood was so small as not to stain the external dressings that were applied.

A Contused wound is that which is made by a blunt instrument: under which head may be ranked, lacerated, gunshot, & punctured wounds.

A wound made with a sharp instrument will pour out much more blood than those made by obtuse: Because an incised wound is accompanied with injury no farther than its divided surface. But in contused wounds the injured surface is extended to some distance around the divided parts; & by the effusion of blood in the cellular substance, fatcial pressure is produced which prevents the blood from flowing; besides this, from the surfaces being contused, coagulation takes place much sooner.

In contused wounds, therefore the blood does not flow.

1. Because the power of the vessels are diminished.

2. By

asked by me what sort of pain she felt. She replied that it felt just as a warming pan full of live coals applied to her back would feel.

They come most frequently upon the Back, generally in old people. Sometimes several of them at a time: when this is the case the patient is in great danger, especially if they come upon the head.

A kind of suppuration takes place in the cellular substance. but the pus is never good.

Much depends upon the constitution of the patient in using remedies for this disease! If weak the Peruvian Bark ought to be given.

A blister over the carbuncle is an effectual remedy in relieving the pain but it does not prevent the cellular substance from sloughing out — which is dead.

I never saw a Carbuncle in its first stage, but I believe, indeed I have no doubt, that a blister applied to it, while in the State of a pimple, would cure it in a very short time.

Of Wounds.

A wound is a breach made in the continuity of a part, having an external opening, & it always implies mechanical injury.

Wounds are divided into two kinds, viz. Incised and Contused.

of

she died in a very short time. In taking up the arteries I found them so much ossified that I was obliged to break them between my fingers, before I was able to tye them so as to prevent hemorrage.

Pressure long continued upon a part sometimes caused mortification. This we often see takes place over the os sacrum and hips in persons confined to their beds.

The Symptoms of Mortification are a burning pain in the part, red colour which after a while becomes livid, small blisters rise, sometimes become emphysematous: sensibility is entirely destroy'd; becomes black, smells insufferably; & undergoes a putrefactive fermentation.

Pressure of the fingers before death upon the part, leaves a white spot which after a while, returns to its natural colour, if dead it keeps its colour. If the colour returns quick after pressure, you have some hopes of its terminating favourably, & vice versa.

Coagulation takes place in the living arteries, as well as in the dead parts, if it did not there would be a constant hemorrhage.

The remedies for this kind of Mortification are divided into general & local.

Cordials, hot baths, oils, incisions, scarification &c. should never be used, excepting under particular circumstances.

of the

1. If the inflammatory symptoms run very high, the antiphlogistic regimen should be used. as bleeding, blistering, low diet, purges &c. If the patient be very weak, such remedies must be used very cautiously.
2. If accompanied with much pain opium should be taken internally
3. The strength of the patient should be supported with nourishing diet, & the Peruvian Bark as much of it as his stomach will bear. If the patient has been accustomed to use wine, he should be allowed to drink it freely.

The local treatment is first to remove the exciting causes, & discharge the fluids; a bread & milk poultice moderately warm, but not too heavy should be applied to the part.

After the parts are dead, the fermenting poultice with charcoal, has very good effect.

The fetor may be corrected by washing the part with diluted Nitric Acid, in the proportion of about ℥i of the Acid. & ℥ii of water.

Of the peculiarities of Mortification independent of that which arises from inflammation.
1. That kind which arises from the Small Pox, in which the inflamed parts slough out & leave considerable pits.
2. The Carbuncle. The inflammation which first takes place in this, is of a brown colour the surface is flat, and the pain, of a burning kind.

A Lady who had a carbuncle on her back was

ashed

inflammation is of short duration, & suppuration soon comes on. When the abcess is formed an opening should be made into it with a lancet: & if the inflammation continues after opening it. the skin should be taken off and a solution of saccharum Saturni applied to it.

When seated in the adipose membrane it is much more painful, but when seated in the theca of the tendons, or in the periosteum which covers the bones, the pain is very acute. the swelling not very great, but the hand and arm are very much inflamed. The best method of treating this, is to make an incision down to the inflamed part, or to the Bone, if the inflammation extends to it, & let it bleed untile it stops spontaneously, if the opening be large enough, nothing more is necessary than to apply a little dry lint, or a poultice to it. If matter should travel along the hand. & point at any place it must be opened; or if the bone be loose it should be extracted, but not by force.

It is very difficult to assign the cure of this disease.

IIII. Psoas Abscess, it is situated in the cellular membrane, & surrounding the Psoas Muscle, or in its vicinity. The matter when deep seated is contained in a cyst

It sometimes comes without any remote causes

causes being assigned, but generally after febrile diseases; sometimes mechanically from contusion, or overstretching of the loins, &c. The symptoms attending it are weakness of the thigh, heat & a dull pain at its upper end, the patient generally bends the body forward in order to relax the muscles; the thigh cannot perform its rotatory motion, and the patient cannot stand upright. Months often elapse before an external tumour appears.

It generally forms in the anterior & upper part of the Thigh, sometimes on the Back, & I have seen it very near the anus. When near the anus it is sometimes taken for a fistula in ano; when on the Thigh for a Hernia or Buboe. In this abcess the colour of the skin is not changed but it contains a large quantity of pus. I have seen more than two quarts run from it; & have generally found it attended with a carious state of the vertebræ.

The first thing to be done if called in at the first stage of the disease, is to prevent the formation of matter. This is to be done by keeping the patient at rest, by a low diet, bloodletting, cupping, leeching, & scarifying the part, cathartics should be administered daily, and a blister applied over the part. If those means fail an issue should be formed by means of caustic applied near the loins.

If however thro' the neglect of these means or by administering them too late suppuration comes

in many cases.

When the inflammation is very violent, I have found that a circular blister applied immediately over the Eyelid, is a very effectual remedy.

Of Wounds of the Face.

In order to prevent deformity in the face from wounds, the edges should be kept in contact as much as possible. If contused wounds happen upon the face, soft poultices should be applied. In keeping the edges of wounds in contact, the common adhesive plaister is generally sufficient: Some employ the sutures, but they leave very often large scars.

If the lips are cut, if no part is lost, the adhesive plaister is sufficient. Sometimes the tongue is cut, especially in children, in this case the interrupted suture must be used: in doing this a piece of wood or cork should be introduced between the Teeth in order to prevent the child from biting the Surgeon's fingers.

In wounds of the ear, the suture also is to be used.

In wounds of the Throat the first object to be attended to is the hemorrhage: the divided vessels should be sought for, & ligatures applied upon them. After the hemorrhage is stopped the sides of the wound are to be brought into contact. If the orifice of the Trachea be small, I have succeeded by using the adhasive plaister; but if it be large the suture

ure must be used, it should be passed thro' to the cartilages only, & the external skin closed by adhesive plaister; the patients head should also be brought a little forward. If the Oesophagus be wounded it will be necessary to pass a catheter down the oesophagus, & let nourishment be taken down thro' it.

If coughing occurs it mus be allayed by — means of Opium and demulcents.

Some Surgeons suppose that a wound cannot penetrate so deep as to cut the oesophagus without dividing the carotid artery. But I shall relate a case which proves that it may be wounded, without touching the carotid artery.

Of Wounds of the Thorax.

Wounds which penetrate into the cavity of the Thorax, are generally attended with great danger. If any large bloodvessels are wounded, the blood will flow into the cavity of the chest, & by stagnating there, will prove very injurious. When an intercostal artery is wounded, & cannot be taken up with a tenaculum, it has been advised to apply a ligature round the rib, & tie a dossil of lint upon the mouth of the orifice: this I have never seen done, neither have I ever had occasion to do it my self; but I have reason to believe it might prove successful. Wounds made by Shot or bullets into

Parts in contact sometimes suffer very much, from carelessness & inattention in applying suitable dressings.

If the fingers are burnt, pieces of linnen or of lint spread with the above plaister on both sides should be applied between them & they should be extended on a splint. Also if the hand & fore arm be much burnt they should be extended on a splint.

A child was brought to me some time ago. which having had his fingers very much burnt. & no pains being taken in dressing of them, grew fast together. & the ends of the fingers had also grew fast to the palm of the hand. I was desired to cut them loose. which I did. but the child could never straighten his fingers. I could open the hand only about half way; thus he was made a cripple entirely from carelessness & inattention in the application of the dressings.

Of Mortification.

Mortification is the complete & entire death of any part of the body.

In commencing upon this subject I shall mention in the first place, that the State of the system has a very great effect in determining upon its remote causes.

Intense cold or heat applied to a part causes mortification: when a part losses its life it also losses its heat.

Mortification is of two kinds. the one without

any

day. If the cuticle is off the plaister of Bazilicon or Turbentine must be applied to the burnt parts only. for if it touches the sound skin, it causes violent inflammation; owing to carelessness & inattention to this circumstance, among many Physicians, they have supposed this remedy injurious. but I have always found it an effectual remedy, when applied as above.

A Gentleman clearing out his room one day opened a drawer containing some waste paper, he took some of it out & threw it into the fire, there happened unfortunately to be some Gunpowder among it. which before he got away from the fire, burnt his hands & face very much I was sent for immediately. I applied the Spt. Terebinth. & Bazilicon to the burnt parts only: the next day I found him quite easy, excepting the end of his little finger. which was very painful. owing to its not being covered with the plaister; I applied the plaister over it & he got well in a very short time.

If not called till several days after the burn happened, the Spt. Terebinth. & Bazilicon is the best remedy; Or if ulceration takes place and a fungus rises. the same remedy may be used, with pressure upon it. The black bazilicon has been highly recommended.

Paris